CLAIMS

1. A GCRI polypeptide or a GCR2 polypeptide, or a fragment, homologue, variant or derivative thereof.

2. A polypeptide according to claim 1, which has at least 50% homology to a sequence shown in SEQ ID NO: 2.

3. The polypeptide of claim 2, which has at least 60% homology to a sequence shown in SEQ ID NO: 2.

4. The polypeptide of claim 3, which has at least 70% homology to a sequence shown in SEQ ID NO: 2.

5. The polypeptide of claim 4, which has at least 80% homology to a sequence shown in SEQ ID NO: 2.

6. The polypeptide of claim 5, which has at least 90% homology to a sequence shown in SEQ ID NO: 2.

7. The polypeptide of claim 6, which has at least 95% homology to a sequence shown in SEQ ID NO: 2.

8. A nucleic acid encoding a polypeptide according to claim 1, or a fragment, homologue, variant or derivative thereof.

9. A nucleic acid comprising a sequence of 25 contiguous nucleotides of the nucleic acid of claim 8.

10. A nucleic acid comprising a sequence of 15 contiguous nucleotides of the nucleic acid of claim 8.

11. A nucleic acid having at least 90% homology with the sequence set forth in SEQ ID NO: 1, or a fragment, variant or derivative thereof.

12. A nucleic acid comprising a sequence of 25 contiguous nucleotides of the nucleic acid of claim 11.

13. A nucleic acid comprising a sequence of 15 contiguous nucleotides of the nucleic acid of claim 11.

14. A nucleic acid having at least 75% homology with the sequence set forth in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8 or SEQ ID NO: 9, or a fragment, variant or derivative thereof.

15. A nucleic acid comprising a sequence of 25 contiguous nucleotides of the nucleic acid according to claim 14.

16. A nucleic acid comprising a sequence of 15 contiguous nucleotides of the nucleic acid according to claim 14.

17. The complement of a nucleic acid sequence according to claim 8.

18. The complement of a nucleic acid sequence according to claim 11.

19. The complement of a nucleic acid sequence according to claim 14.

20. A nucleic acid according to claim 8, comprising one or more nucleotide substitutions, wherein such substitutions do not alter the coding specificity of said nucleic acid as a result of the degeneracy of the genetic code.

21. A nucleic acid according to claim 11, comprising one or more nucleotide substitutions, wherein such substitutions do not alter the coding specificity of said nucleic acid as a result of the degeneracy of the genetic code.

22. A nucleic acid according to claim 14, comprising one or more nucleotide substitutions, wherein such substitutions do not alter the coding specificity of said nucleic acid as a result of the degeneracy of the genetic code.

23. A polypeptide encoded by a nucleic acid according to claim 8.

24. A polypeptide encoded by a nucleic acid according to claim 11.

25. A polypeptide encoded by a nucleic acid according to claim 14.

26. A polypeptide according to claim 23, in which the polypeptide comprises a sequence shown in SEQ ID NO: 2 or SEQ ID NO: 4.

27. A polypeptide according to claim 24, in which the polypeptide comprises a sequence shown in SEQ ID NO: 2 or SEQ ID NO: 4.

28. A polypeptide according to claim 25, in which the polypeptide comprises a sequence shown in SEQ ID NO: 2 or SEQ ID NO: 4.

29. A method for identifying a pluripotent cell, comprising detecting the presence of a polypeptide according to claim 1 or a polypeptide encoded by a nucleic acid encoding a polypeptide according to claim 1, or a fragment, homologue, variant or derivative thereof, or the expression of a nucleic acid encoding a polypeptide according to claim 1, or a fragment, homologue, variant, homologue, or derivative thereof, or a nucleic acid having at least 90% homology with the sequence set forth in SEQ ID NO: 1, or a fragment, variant, homologue or derivative thereof, or a nucleic acid having at least 75% homology with the sequence set forth in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8 or SEQ ID NO: 9, or a fragment, variant, homologue or derivative thereof.

30. A method according to claim 29, comprising the steps of amplifying nucleic acids from a putative pluripotent cell using 5' and 3' primers specific for GCRI and/or GCR2, and detecting amplified nucleic acid thus produced.

31. A method according to claim 29, wherein the expression of the nucleic acid sequence is detected by in situ hybridisation.

32. A method according to claim 15, wherein the expression of the nucleic acid sequence is determined by detecting the protein product encoded thereby.

33. A method according to claim 29, wherein the protein product is detected by immunostaining.

34. A method according to claim 32, wherein the protein product is detected by immunostaining.

35. An antibody specific for a polypeptide according to claim 1, a polypeptide encoded by a nucleic acid encoding a polypeptide according to claim 1, or a fragment, homologue, variant or derivative thereof.

36. An antibody according to claim 35, which is capable of specifically binding to an extracellular domain of GCRI.

37. A method of using an antibody according to claim 35 for the identification and/ or isolation of a pluripotent cell.

38. A pluripotent cell identified by a method comprising detecting the presence of a polypeptide according to claim 1 or a polypeptide encoded by a nucleic acid encoding a GCRI polypeptide or a GCR2 polypeptide, or a fragment, homologue, variant or derivative thereof, or a fragment, homologue, variant or derivative thereof, or the expression of a nucleic acid encoding a GCRI polypeptide or a GCR2 polypeptide, or a fragment, homologue, variant or derivative thereof, or a fragment, homologue, variant, homologue, or derivative thereof, or a nucleic acid having at least 90% homology with the sequence set forth in SEQ ID NO: 1, or a fragment, variant, homologue or derivative thereof, or a nucleic acid having at least 75% homology with the sequence set forth in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8 or SEQ ID NO: 9, or a fragment, variant, homologue or derivative thereof.

39. A pluripotent cell identified by a method of using an antibody according to claim 35 for the identification and/ or isolation of a pluripotent cell.

40. A method for isolating a gene specifically expressed in a pluripotent cell, comprising the steps of (a) providing a population of cells containing a pluripotent cell; (b) isolating one or more pluripotent cells therefrom and providing single-cell pluripotent cell isolates; (c) amplifying the transcribed nucleic acid present in a single pluripotent cell; (d) conducting a subtractive hybridisation screen to identify transcripts present in pluripotent cells but not in somatic cells; and (e) probing a nucleic acid library with one or more transcripts identified in (d) to clone one or more genes which are specifically expressed in pluripotent cells.

41. A method according to claim 29, in which the pluripotent cell is selected from the group consisting of a primordial germ cell (PGC), an embryonic stem cell (ES) and an embryonic germ cell (EG).

42. A method according to claim 33, in which the pluripotent cell is selected from the group consisting of a primordial germ cell (PGC), an embryonic stem cell (ES) and an embryonic germ cell (EG).

43. A method according to claim 37, in which the pluripotent cell is selected from the group consisting of a primordial germ cell (PGC), an embryonic stem cell (ES) and an embryonic germ cell (EG).

44. A method according to claim 40, in which the pluripotent cell is selected from the group consisting of a primordial germ cell (PGC), an embryonic stem cell (ES) and an embryonic germ cell (EG).

45. A pluripotent cell according to claim 40, in which the pluripotent cell is selected from the group consisting of a primordial germ cell (PGC), an embryonic stem cell (ES) and an embryonic germ cell (EG).